

SEQUENCE LISTING

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<120> IMMUNOGENIC COMPOSITIONS FOR INDUCTION OF ANTI-TUMOR IMMUNITY

<130> COHEN42

<140> 09/445,602  
<141> 2000-03-23

<150> PCT/IL98/00266  
<151> 1999-12-09

<150> IL 121041  
<151> 1997-06-09

<160> 25

<170> PatentIn version 3.0

<210> 1  
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Ala Thr Gly Glu Ala Gly Ala Ser Val Lys Leu Ser Cys Lys Ala Ser  
1 5 10 15

Gly Tyr Thr Phe Thr Ser Ser Trp Ile Asn Trp Val Lys Gln Arg Pro  
20 25 30

Gly Gln Gly Leu Glu Trp Ile Gly Glu Ile Asp Pro Ser Asp Ser Tyr  
35 40 45

Thr Asn Tyr Asn Gln Asn Phe Lys Asp Lys Ala Thr Leu Thr Val Asp  
50 55 60

Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu  
65 70 75 80

Asp Ser Ala Val Tyr Tyr Cys Ala Arg Leu Leu Arg Tyr Phe Ala Met  
85 90 95

Asp Tyr Trp Gly Gln Gly Thr Thr  
100

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<212> PRT  
<213> Mus musculus

<400> 2

Phe Leu Ser Cys Ile Ser Gly Ala Glu Gly His His Leu Ile Gln Gly  
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Gln Gln Lys Cys Gln Tyr Ile Trp Leu Tyr Tyr Met His Trp Asn Gln  
20 25 30

Gln Lys Pro Gly Gln Pro Pro Arg Leu Leu Ile Tyr Leu Val Ser Asn  
35 40 45

Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr  
50 55 60

Asp Phe Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr  
65 70 75 80

Tyr Tyr Cys Gln His Ile Arg Glu Leu Thr Arg Ser Glu Gly Gly Pro  
85 90 95

Ser Trp Arg Ser Ile Arg Ile  
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<210> 3

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<212> PRT

<213> Mus musculus

<400> 3

Ser Trp Val Lys Pro Gly Ala Ser Val Lys Ile Pro Cys Lys Ala Ser  
1 5 10 15

Gly Tyr Thr Phe Thr Asp Tyr Asn Met Asp Trp Val Lys Gln Ser His  
20 25 30

Gly Lys Ser Leu Glu Trp Ile Gly Asp Ile Asn Pro Asn Asn Gly Tyr  
35 40 45

Thr Ile Tyr Asn Gln Lys Val Lys Gly Lys Ala Thr Leu Thr Val Asp  
50 55 60

Lys Ser Ser Asn Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu  
65 70 75 80

Asp Thr Ala Val Tyr Tyr Cys Val Arg Gly Gly Leu Lys Gly Tyr  
85 90 95

Pro Phe Val Tyr Trp Gly Gln Gly Thr Thr  
100 105

<210> 4

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<213> Mus musculus

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<223> Xaa is any amino acid

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<223> Xaa is any amino acid

<400> 4

Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Asn Phe Met His  
1 5 10 15

Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr Ser  
20 25 30

Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ile Gly Ser Gly  
35 40 45

Ser Gly Thr Ser Xaa Ser Leu Thr Ile Ser Arg Met Glu Ala Glu His  
50 55 60

Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Phe Pro Phe Thr Tyr  
65 70 75 80

Gly Ser Gly Thr Lys Xaa Glu Ile Gln Xaa Asp Pro  
85 90

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<400> 5

Leu Gln Glu Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val Lys  
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Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Tyr Met Asn  
20 25 30

Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile Gly Asp Ile  
35 40 45

Tyr Pro Asn Asn Gly Phe Thr Thr Tyr Asn Gln Lys Phe Lys Gly Lys  
50 55 60

Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr Asn Glu Leu  
65 70 75 80

Arg Asn Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ser  
85 90 95

Gly Ser Arg Phe Asp Tyr Trp Gly Gln Gly Thr Thr Val His Arg  
100 105 110

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<212> PRT

<213> Mus musculus

<400> 6

Met Asp Ile Gln Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Thr Pro  
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Gly Asp Ser Val Ser Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Asn  
20 25 30

Asn Leu His Trp Tyr Gln Gln Lys Ser His Glu Ser Pro Arg Leu Leu  
35 40 45

Ile Lys Phe Ala Ser Gln Ser Ile Ser Gly Ile Pro Ser Arg Phe Ser  
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn Ser Val Glu  
65 70 75 80

Thr Glu Asp Phe Gly Val Tyr Phe Cys Gln Gln Ser Asn Ser Trp Pro  
85 90 95

Val His Ala Arg Gly Gly Gly Thr Lys Leu Glu Asn Leu  
100 105

<210> 7

<211> 112

<212> PRT

<213> Mus musculus

<400> 7

Leu Gln Glu Ser Gly Ala Glu Leu Val Arg Ser Gly Ala Ser Val Lys  
1 5 10 15

Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Tyr Tyr Met His  
20 25 30

Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile Gly Trp Ile  
35 40 45

Asp Pro Glu Asn Gly Asp Thr Glu Tyr Ala Pro Lys Phe Gln Gly Lys  
50 55 60

Ala Thr Met Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Leu Gln Leu  
65 70 75 80

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Ser Ser Leu Ala Ser Glu Asp Thr Ala Val Tyr Tyr Cys Asn Phe Tyr  
85 90 95

Gly Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser  
100 105 110

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<400> 8

Pro Gln Asp Ile Gln Leu Thr Gln Ser Pro Leu Thr Leu Ser Val Thr  
1 5 10 15

Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu  
20 25 30

Asp Ser Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly  
35 40 45

Gin Ser Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly  
50 55 60

Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu  
65 70 75 80

Lys Ile Asn Arg Val Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp  
85 90 95

Gln Gly Thr His Ser Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Lys  
100 105 110

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<400> 9

Glu Ile Asp Pro Ser Asp Ser Tyr Thr Asn Tyr Asn Gln Asn Phe Lys  
1 5 10 15

Asp

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<212> PRT  
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<400> 10

Leu Leu Arg Tyr Phe Ala Met Asp Tyr  
1 5

<210> 11

<211> 8  
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<400> 11

Gln His Ile Arg Glu Leu Thr Arg  
1 5

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<400> 12

Asp Ile Asn Pro Asn Asn Gly Tyr Thr Ile Tyr Asn Gln Lys Val Lys  
1 5 10 15

Gly

<210> 13  
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<212> PRT  
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<400> 13

Gly Gly Gly Leu Lys Gly Tyr Pro Phe Val Tyr  
1 5 10

<210> 14  
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<212> PRT  
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<400> 14

Gln Gln Arg Ser Ser Phe Pro Phe Thr  
1 5

<210> 15  
<211> 17  
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<400> 15

Asp Ile Tyr Pro Asn Asn Gly Phe Thr Thr Tyr Asn Gln Lys Phe Lys  
1 5 10 15

Gly

<210> 16  
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<212> PRT

<213> Mus musculus

<400> 16

Ser Gly Ser Arg Phe Asp Tyr  
1 5

<210> 17

<211> 10

<212> PRT

<213> Mus musculus

<400> 17

Gln Gln Ser Asn Ser Trp Pro Val His Ala  
1 5 10

<210> 18

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<212> PRT

<213> Mus musculus

<400> 18

Trp Ile Asp Pro Glu Asn Gly Asp Thr Glu Tyr Ala Pro Lys Phe Gln  
1 5 10 15

Gly

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<212> PRT

<213> Mus musculus

<400> 19

Tyr Gly Asp Ala Leu Asp Tyr  
1 5

<210> 20

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<212> PRT

<213> Mus musculus

<400> 20

Trp Gln Gly Thr His Ser Pro Leu Thr  
1 5

<210> 21

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<400> 21

Tyr Tyr Cys Gln His Ile Arg Glu Leu Thr Arg Ser Glu Gly Gly Pro  
1 5 10 15

Ser

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<212> PRT  
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<400> 22

Gly Val Tyr Tyr Cys Trp Gln Gly Thr His Ser Pro Leu Thr Phe Gly  
1 5 10 15

Ala Gly Thr Lys  
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<210> 23  
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<400> 23

Gly Asp Ile Asn Pro Asn Asn Gly Tyr Thr Ile Tyr Asn Gln Lys Val  
1 5 10 15

Lys Gly Lys Ala  
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<400> 24

Ala Val Tyr Tyr Cys Ala Arg Ser Gly Ser Arg Phe Asp Tyr Trp Gly  
1 5 10 15

Glu Gly Thr Thr  
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<400> 25

Val Tyr Phe Cys Gln Gln Ser Asn Ser Trp Pro Val His Ala Arg Gly  
1 5 10 15

Gly Gly Thr Lys  
20